



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

David M. Skinlo

Serial No: 10/697,537

Filed: October 29, 2003

For: SEPARATOR BAG FOR USE IN
ELECTROCHEMICAL CELL

Art Unit: 1745

Examiner: Echelmeyer, Alix
Elizabeth

MS Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF

I. **REAL PARTY IN INTEREST**

The real party in interest is Quallion LLC the assignee of the above referenced application.

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II. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known which will be affected by this appeal.

III. STATUS OF CLAIMS

The application under appeal has included claims 1-59. Claims 1-27, 34-38, and 54-59 were previously presented. Claims 28-33, 39-53 are canceled. Accordingly, claims 1-27, 34-38, and 54-59 are pending examination.

Claims 1-27, 34-38, and 54-59 are appealed.

1. Claims 1, 2, 5-13, 16, 17, 20-22, and 34-38 are rejected under 35 USC §103(a) as being unpatentable over U.S. Patent number 6,001,503 (Hercamp) in view of U.S. Patent number 4,476,203 (Robert).

2. Claims 14 and 59 are rejected under 35USC102(b) as being anticipated by U.S. Patent number 6,001,503 (Hercamp).

3. Claims 3, 18, and 54 are rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of U.S. Patent number 5,314,507 (Rossoll).

4. Claim 15 is rejected under 35USC103(a) as being unpatentable over Hercamp.

5. Claims 4 and 19 are rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Rossoll and even further in view of U.S. Patent number 4,539,271 (Crabtree).

6. Claim 23 is rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 5,674,641 (Cheu).

7. Claims 24-27 are rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Cheu and further in view of Robert.

8. Claims 55-58 are rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Cheu.

IV. STATUS OF AMENDMENTS

An Amendment submitted on October 3, 2007 amended claims 3, 6, 8, 16-18, and 26 and added claims 54-59. The amendments were entered and a Final Office Action was mailed on December 28, 2007 (pending Office Action). This Appeal Brief is submitted in response to the pending Office Action. Accordingly, the currently pending claims are the claims that were included in the Amendment submitted on October 3, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In accordance with 37 CFR § 41.37c(1)(v), Appellants provide a brief summary of each independent claim involved in the appeal, where each summary refers to the specification by page and line number and to the drawings by reference number. Appellants note that the citations in this "Summary of claimed subject matter" are provided to identify some portions of the specification related to the particular claims. In the interest of brevity, each claim summary does not necessarily include all references to all relevant portions of the specification and drawings. Accordingly, omission of any reference to the specification or to the drawings should not be construed in any way as an intent to relinquish claim scope, or as an implication or statement regarding the conformance with 35 U.S.C. § 112. Appellants respectfully submit that the claims should not be construed as being limited to the embodiments cited in the claim summary, and further submit that other embodiments, as well as the Doctrine of Equivalents, may apply in determining claim scope.

The only independent claims are claims 1, 14, 23, and 34.

Summary of Independent Claim 1

The elements of Claim 1 can be found in Figures 1A through Figure 1E. These figures present different views of an electrode system as described at page 5, lines 14-21.

Claim 1 is directed to a battery that includes one or more separator materials formed into a bag (page 5, line 23, and labeled 14 in Figures 1A-1D) having at least two seams (page 5, line 23, and labeled 20 and 22 in Figures 1A-1D). The seams are positioned so as to define a perimeter of a pocket (page 5, line 27, and the lines labeled P in Figure 1B) configured to receive an electrode (page 5, lines 27-28, and labeled 12 in Figures 1B-1D) within the bag (Figures 1B-1D). The

seams are arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket (page 5, line 31-page 6, line 1). At least one of the seams includes a spacer (page 5, line 25-26, and labeled 23 in Figures 1D and 1E) positioned between portions of the one or more separator materials joined by the at least one seam (page 5, line 26; and label 23 in Figure 1D).

Summary of Independent Claim 14

The elements of Claim 14 can be found in Figures 2.

Claim 14 is directed to a battery that includes an electrode (page 7, line 3-5, and labeled 12 in Figure 2) and one or more separator materials formed into a bag (page 7, line 1, and labeled 14 in Figure 2). The bag has at least two seams that immobilize one portion of the one or more separator materials relative to another portion of the one or more separator materials (page 2, lines 7-9; page 7, lines 1; and labeled 20, 22, and 42 in Figure 2). The seams define a perimeter of a pocket that surrounds the electrode (page 7, line 3, and line labeled P in Figure 2).

Summary of Independent Claim 23

The elements of Claim 23 can be found in Figure 1A through Figure 1D.

Claim 23 is directed to a battery that includes one or more separator materials formed into a bag (page 5, line 23, and labeled 14 in Figures 1A-1D) having seams that immobilize one portion of the one or more separator materials relative to another portion of the one or more separator materials (page 5, line 23-25, and labeled 20 and 22 in Figures 1A-1D), the seams positioned so as to define a perimeter of a pocket (page 5, line 27, and the lines labeled P in Figure 1B) configured to receive an electrode (page 5, lines 27-28, and labeled 12 in Figures 1B-1D). The electrode is positioned within the pocket (page 5, lines 27-28, and

labeled 12 in Figures 1B-1D). The electrode has a tab extending from the bag (page 6, lines 27-28, and labeled 32 in Figures 1A-1B). A tab opening extends through the tab and being open to an edge of the tab (page 6, line 20, and labeled 40 in Figures 1A-1B).

Summary of Independent Claim 34

The elements of Claim 1 can be found in Figures 1A through Figure 1E.

Claim 34 is directed to a method of forming battery. The method includes joining regions of one or more separator materials so as to form the seams of a separator bag (page 2, lines 24-25; page 5, line 23-25; and labeled 20 and 22 in Figures 1A-1D). The seams are positioned so as to define a perimeter of a pocket configured to receive an electrode within the bag (page 5, line 27, and the lines labeled P in Figure 1B). The seams are arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket (page 5, line 31-page 6, line 1). At least one of the seams is formed so as to include a spacer (page 5, line 25-26, and labeled 23 in Figures 1D and 1E) positioned between regions of the separator material joined by the at least one seam (page 5, line 26; and label 23 in Figure 1D).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Rejection of Claims 1, 2, 5-13, 16, 17, 20-22, and 34-38 under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 4,476,203 (Robert).

2. Rejection of Claims 14 and 59 under 35USC102(b) as being anticipated by U.S. Patent number 6,001,503 (Hercamp).

3. Rejection of Claims 3, 18, and 54 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of U.S. Patent number 5,314,507 (Rossoll).

4. Rejection of Claims 15 is rejected under 35USC103(a) as being unpatentable over Hercamp.

5. Rejection of Claims 4 and 19 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Rossoll and even further in view of U.S. Patent number 4,539,271 (Crabtree).

6. Rejection of Claim 23 under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 5,674,641 (Cheu).

7. Rejection of Claims 24-27 under 35 USC §103(a) as being unpatentable over Hercamp in view of Cheu and further in view of Robert.

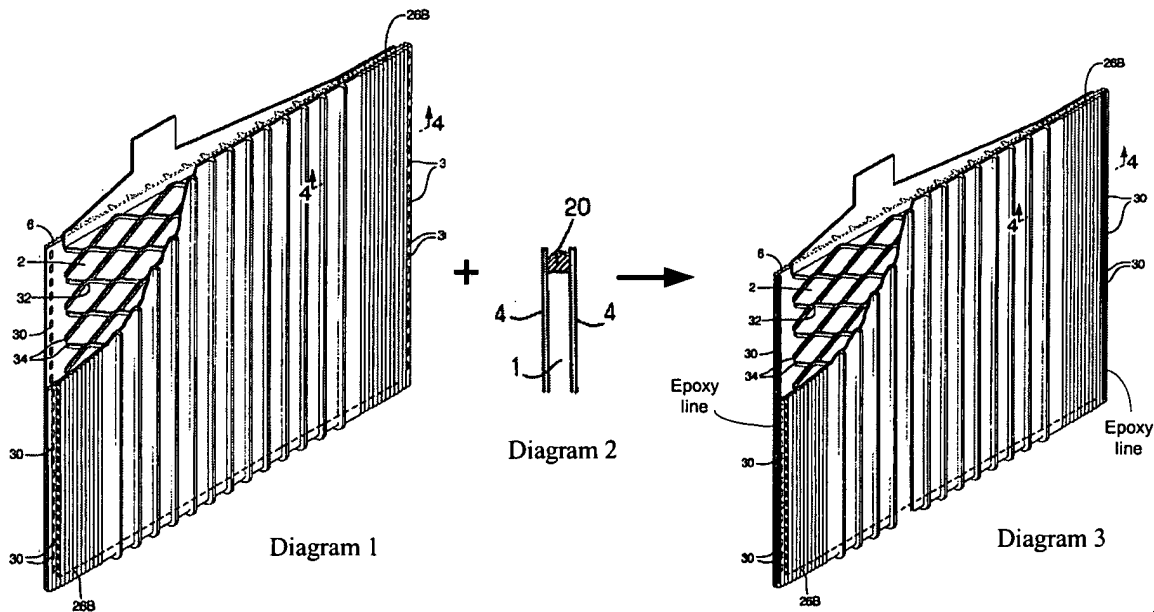
8. Rejection of Claims 55-58 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Cheu.

VII. ARGUMENT

1. Rejection of Claims 1, 2, 5-13, 16, 17, 20-22, and 34-38 under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 4,476,203 (Robert).

CLAIMS 1 and 34

Independent claims 1 and 34 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent number 6,001,503 (Hercamp) in view of U.S. Patent number 4,476,203 (Robert). This rejection appears based on the assertion that it would be obvious replace the seal at the borders (26A and 26B) of Hercamp's separator with Robert's epoxy line 20 (the suggested modification).



The Suggested Modification is not Associated with Predictable Results

The above diagrams illustrate the suggested modification. Diagram 1 is Figure 2 of Hercamp which shows the gridwires 34 of an electrode 2 positioned in a separator 6. Each of the borders (26A and 26B) of the separator is sealed along the line of sites 30. Diagram 2 is Figure 3A of Roberts and shows the epoxy line

20 of Robert positioned between shims 4. Diagram 3 shows the seals of diagram 1 replaced with the epoxy line 20 shown in diagram 2. Accordingly, Diagram 3 is believed to represent the implementation of the suggested modification.

As we are all aware, the recent Supreme Court case of *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007) has provided new standards for obviousness rejections. This case is called the *KSR* opinion below. The *KSR* opinion provided that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 1739. The suggested modification does not yield the "predictable results" described in this quotation. For instance, Hercamp teaches us that the electrodes of Hercamp's battery have a grid with "sharp gridwire ends" that can puncture through the borders of the separator (C1, L47-50). Hercamp also teaches us that these punctures are a source of internal shorts within the battery (C1, L49-50). The problems with associated with these punctures are so severe that Hercamp has changed the structure of the separator to overcome these punctures (C2, L5-6 and title).

The suggested modification re-introduces the possibility of these punctures into the battery of Hercamp. In particular, the suggested modification requires an introduction of additional material into a space between the borders (26A and 26B) of Hercamp's separator. However, Hercamp's separator does not have any material at this location. For instance, Hercamp teaches that at the borders, "the separator (is) pressure bonded to itself" (C2, L54). In contrast, the suggested modification results in a line of epoxy being introduced between the borders (26A and 26B). In this location, the epoxy lines will be subjected to the sharp ends of the gridwire as described by Hercamp. Additionally, the location where the epoxy lines are joined to the separator will also be subjected to the sharp ends of the gridwire. To see this point, note that epoxy positioned between the borders labeled

26A and 26B in Hercamp's Figure 1 would be in direct contact with the grid ends labeled 34. As a result, the epoxy lines will be subjected to the puncturing forces associated with these grid ends. Additionally, the junction between the epoxy lines and the separator will also be subjected to the puncturing forces associated with these gridwire ends.

There is nothing in either Hercamp or Robert suggesting that either the epoxy line or the interfaces between the epoxy line and the separator would withstand these puncturing forces. As a result, it is unpredictable whether the suggested modification would result in a battery having the internal shorts disclosed in Hercamp. The failure of the suggested modification to yield the "predictable results" described by the *KSR* court is evidence that the suggested modification does not properly support the obviousness rejection.

The Suggested Modification Results in Elements Not Being Used for Their Established Function

If the above argument is not convincing enough, the USPTO's analysis of the *KSR* opinion should be considered. The Board of Patent Appeals and Interferences (Board) recently released *Ex Parte Mary Smith*, Appeal 2007-1925 decided on June 25, 2007. Importantly, this opinion is labeled a "Precedential Opinion" and includes the statement that "Pursuant to the Board of Patent Appeals and Interference's Standard Operating Procedure 2, the opinion below has been designated a precedential opinion." Accordingly, the UPSTO has indicated that this opinion is relevant to the present inquiry.

When the Board in *Ex Parte Mary Smith* considered the *KSR* opinion, the Board stated that "(t)he **operative question** ... is, therefore, 'whether the improvement is more than the predictable use of prior art elements **according to their established functions**'" (emphasis added, *Ex Parte Mary Smith* at page 13).

In this citation, the language in the internal quotation marks is extracted from page 1740 of the *KSR* opinion. As a result, this quotation is derived from the *KSR* opinion. Since the Board in *Ex Parte Mary Smith* characterizes this as the “operative question,” the answer to this question is central to the above inquiry.

The suggested modification does not use elements according to their established functions. For instance, Robert’s teaches the exact function of the epoxy line when it states that the epoxy line “is placed ... in order to prevent the active material from escaping (from the electrode plate) and therefore obtain a sealed assembly” (C2, L11-13). When the suggested modification is made, the active material is free to escape Hercamp’s electrode plate. For instance, the borders of Hercamp’s separator are not bonded together along the top of the electrode plate. Further, Hercamp’s electrode plate actually extends between the borders at the top of the separator. As a result, active material 18 would be free to escape from Hercamp’s electrode plate through the upper edge of the separator bag. Since the epoxy line would not prevent the active material from escaping Hercamp’s separator, the suggested modification does not use the epoxy line for its established function. Since the epoxy line is not being used for its established function, the “operative question” cited in the *Ex Parte Mary Smith* opinion indicates that claims 1 and 34 are patentable over the suggested modification.

It cannot be argued that the Applicant has mis-applied the “operative question” set forth in the *Ex Parte Mary Smith* opinion. For instance, the *Ex Parte Mary Smith* opinion provides the following example of how the “operative question” is applied:

(I)f a technique has been used to improve one device, and a person of ordinary skill recognizes that it would improve similar devices **in the same way**, using the technique is obvious... (emphasis added).

This example is also cited at page 1740 of the *KSR* opinion.

The application of the above example to the current situation provides more evidence that the “operative question” indicates the non-obviousness of claims 1 and 34. Roberts improved a battery by using the epoxy to prevent escape of active material from the electrode plate. However, when the suggested modification is implemented, the epoxy fails to prevent escape of active material from an electrode plate. As a result, the epoxy line would NOT improve the battery of Hercamp “**in the same way**” it improves the battery of Roberts. Since the example requires that the improvement be “in the same way,” the example does not apply to the current situation. The failure of this example to support the pending rejection is further evidence that claims 1 and 34 are patentable over the suggested modification.

As noted above, both the “operative question” cited by the Ex Parte Mary Smith opinion and the example of the “operative question” application set forth in that opinion provide further evidence that claims 1 and 34 are patentable over the suggested modification.

Implementing the Suggested Modification Would Cause an Inventor Considerable Difficulty

Both the *KSR* court and the Ex Parte Mary Smith opinion have cited the principle that difficulty for one of ordinary skill in the art to modify a known device to arrive at a claimed device is an indication of non-obviousness. *KSR Int'l v. Teleflex, Inc.* 127 S.Ct. 1727, 82 USPQ2d 1385 (2007) and also *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161, 82 USPQ2d 1687, 1690-91 (Fed. Cir. 2007).

The suggested modification would cause an inventor considerable difficulty. For instance, the Office Action suggests that the epoxy line could be formed by pouring the epoxy “into the space created by the electrode plate being placed

between the two separator sheets” (Page 5 of Office Action, 5th and 6th full paragraphs). This method of assembling the bag would require that the epoxy be poured into the bag after the electrode is in place. The presence of the electrode between the separator combined with the flexibility of the separator means that liquid epoxy poured as described will readily flow between Hercamp’s separator and electrode. As is evident from Hercamp’s Figure 2, this flow of epoxy would result in the epoxy flowing onto the “electrochemically active material 18” on Hercamp’s electrode. This location of the epoxy would adversely affect the performance of the battery by disrupting the intercalation of ions into and/or out of the “electrochemically active material 18” during the discharge of Hercamp’s battery.

Nothing in the cited art provides any teaching or suggestion as to how to prevent the flow of epoxy into the space between the Hercamp’s separator material and Hercamp’s “electrochemically active material 18.” As a result, the inventor would experience considerable difficulty in executing the suggested modification. This difficulty shows that the suggested modification is more than “mere substitution of one element for another known in the field” (Ex Parte Mary Smith at page 13). As a result, the difficulty of making the suggested modification is evidence of non-obviousness.

An Inventor Would Not Make the Suggested modification

As noted in *KSR* decision, a properly supported obviousness rejection requires a reason to combine the cited art. With respect to this requirement, the Ex Parte Mary Smith opinion provides the following:

The Court explained, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known in the design community or present in the marketplace; and the background knowledge present in the marketplace; and the

background knowledge of a person having ordinary skill in the art, all in order to determine **whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.**’ ... **‘to facilitate review, this analysis should be made explicit.’** (emphasis added)

The analysis supporting the determination that there was a reason to combine the known elements in the fashion claimed by the patent at issue has not yet been made explicit. As a result, the Applicant respectfully requests that this analysis be made explicit.

Additionally, the Office Action has not set forth a **“reason to combine the known elements in the fashion claimed.”** The Office Action does state that it “would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created ... the need for the extra machinery to create the seal is removed.” It would appear that the “machinery” being referred to in this quotation is “machinery” for bonding the edges of Hercamp’s separator together by “heat sealing, ultrasonic welding, pressure welding, etc” (C2, L50-51). If this is the machinery to which the Office Action refers, then the provided reason is based on a false assumption. To see this we need only recognize that use of an epoxy line is associated with its own machinery. For instance, the suggested modification would require “machinery” for storing, preparing, and pouring the epoxy as well as any “machinery” needed to prevent the flow of epoxy into the space between the Hercamp’s separator material and Hercamp’s “electrochemically active material 18.” Since there is machinery associated with the use of an epoxy line, the reason provided in the Office Action is based on a false assertion. Since the provided reason is based on a false assertion, the required reason has not yet been provided.

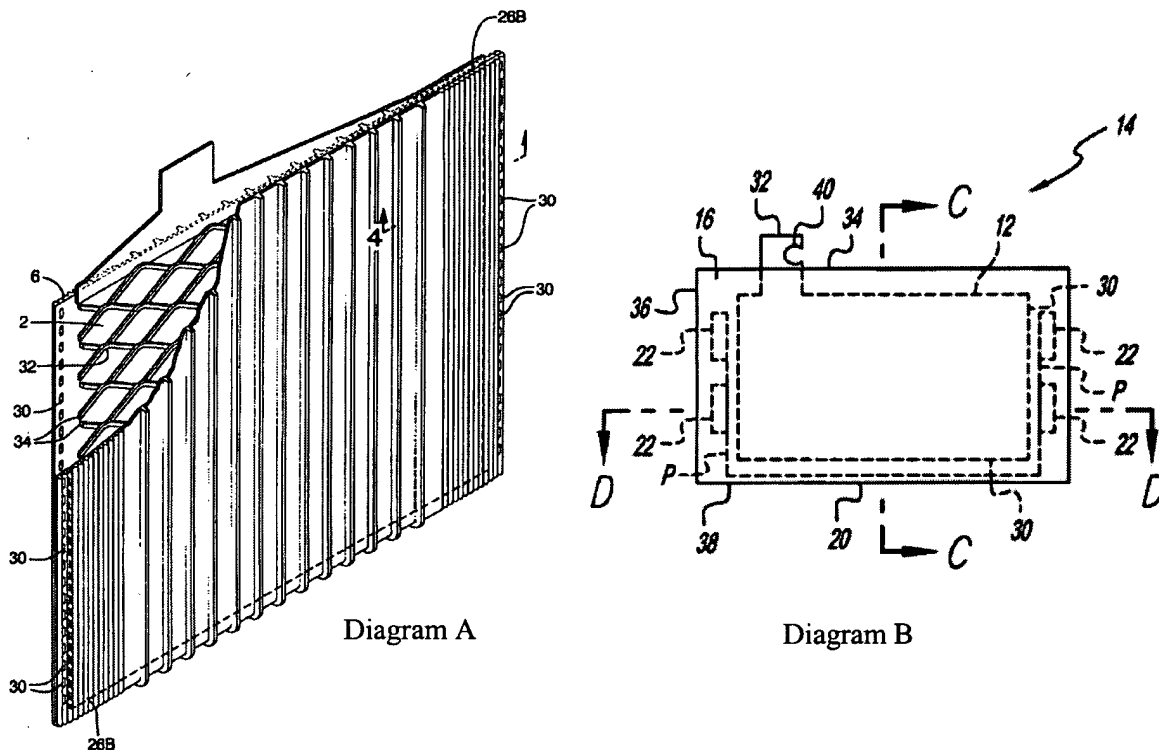
Further, the suggested modification is associated with extensive disadvantages. For instance, the suggested modification could lead to: lost energy density by adding the weight of the epoxy to the battery; increased materials cost by adding the cost of the epoxy to the battery; increased battery cost as a result of adding time-consuming steps to the battery fabrication process including the time associated with epoxy curing; increased battery fabrication time by adding complexity to the battery fabrication process; and a possibility of internal shorts resulting from epoxy failing to withstand the puncturing forces in Hercamp's battery. Inventors confronted with these disadvantages will not make the suggested modification unless some affirmative gain results from that modification. Since the Office Action has not set forth any sort of gain associated with the suggested modification and since there are many disadvantages associated with the suggested modification, an inventor would not make the suggested modification.

The analysis supporting the determination that there was a reason to combine the known elements in the fashion claimed by the patent at issue has not yet been made explicit as required by the Board in *Ex Parte Mary Smith*. Further, the Office Action has not yet presented a reason to combine the known elements in the fashion claimed. Even further, an inventor would not make the suggested modification because there are the numerous disadvantages associated with the suggested modification without any beneficial reasons being presented. For any one of these reasons by itself, the rejection should be withdrawn.

The Suggested Modification Does Not Result in the Claimed Battery

Support for the patentability of claims 1 and 34 can also be found outside of the *KSR* opinion. For instance, the Suggested Modification Does Not Result in the Claimed Battery. For instance, claims 1 and 34 each recites a battery that includes

“seams positioned so as to define a perimeter of a pocket configured to receive an electrode within the bag.” Claims 1 and 34 also each recites that “the seams (are) arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket.” As will be shown below, the suggested modification does not result in “seams ... arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket.”

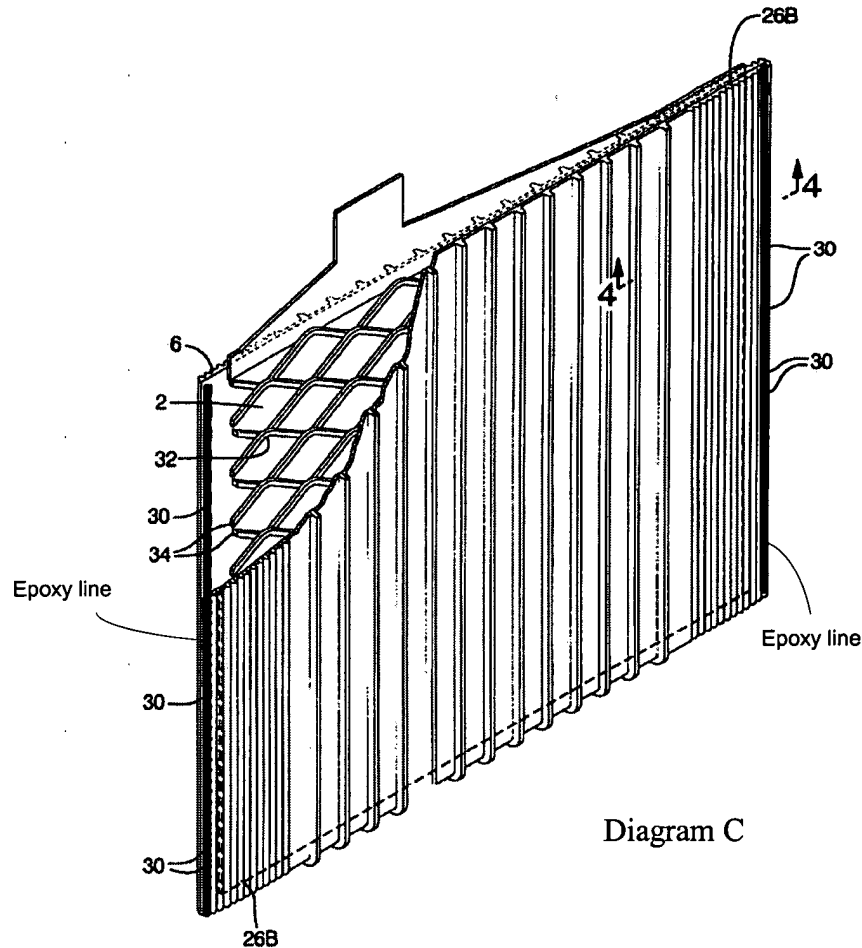


Applicant’s specification discloses a separator that is folded at the bottom with seams that extend upwards from the fold. For instance, the below diagram B is Figure 1B from the current specification. The specification teaches that “(t)he seams are arranged so as to define the perimeter of a pocket 24 configured to receive the electrode 12. The lines labeled P in Figure 1B illustrate the perimeter of the pocket 24.” (P5, L26-28). Since there is no seam extending along the top of the bag, the pocket illustrated by the line labeled P does not extend across the top of the bag. This is a logical result since the electrode in Diagram B is free to move

bag through the top of the bag because it is not constrained by a portion of the pocket being located along the top of the bag. Further, compare this result with Figure 2 of the specification, which shows a seam extending along the top of the bag and also illustrates the resulting pocket extending across the top of the bag.

Hercamp also teaches a separator having seams that extend upward from a fold. For instance, diagram A is Figure 2 of Hercamp. As with diagram B, in diagram A, there is no seam extending along the top of the bag. As a result, the pocket defined by the seams does not extend across the top of the bag. This is also logical since the electrode 2 in Diagram A is free to move out of the bag through the top of the bag because it is not constrained by a portion of the pocket being located along the top of the bag. Further, the below discussion of claim 24 shows that it would contradict the teachings of the specification to interpret the seams of Hercamp as defining the perimeter of a pocket that extends across the top of the bag. Accordingly, the perimeter of the pocket defined by the seams of Hercamp does not extend along the top of the bag.

Replacing the seams in Hercamp with the “epoxy line” of Robert results in a seam that extends upward from Hercamp’s fold as shown in Diagram C. In this arrangement, there is no gap between the seams that are adjacent to one another along the perimeter of the pocket. However, claims 1 and 34 each recites that “at least one gap is formed between seams adjacent to one another along the perimeter of the pocket.” As a result, the suggested modification does not result in the claimed battery or in the claimed method.



The Cited Art Teaches Away from the Suggested Modification

Additional support for the patentability of claims 1 and 34 can be found outside of the *KSR* opinion. For instance, if the Examiner were to argue that the suggested modification did result in a gap being formed between seams adjacent to one another along the perimeter of the pocket, the cited art would then teach away from the suggested modification.

For instance, Hercamp teaches us that the electrodes of Hercamp's battery have a grid with "sharp gridwire ends" that can puncture through the borders of the separator (C1, L47-50). Hercamp also teaches us that these punctures are a source of internal shorts within the battery (C1, L49-50). The problems with associated

with these punctures are so severe that Hercamp has changed the structure of the separator to overcome these punctures (C2, L5-6 and title).

If there were a gap between the seams that defined Hercamp's pocket, the sharp ends of the gridwire would be free to exit from between the borders through the gap. What is worse is that the presence of a spacer on one or both ends of this gap would increase the separation between Hercamp's borders. For instance, the Office Action argues that Roberts teaches that the epoxy line is the same thickness as the electrode in the first paragraph of page 5. As a result, the use of Robert's epoxy between Hercamp's borders separates the borders by about the thickness of Hercamp's electrode. The increased distance between these borders increases the ease with which the sharp ends of the gridwires will pass through the gap. A gridwire end that extends through the gap will extend out from between the borders of the separator.

A gridwire end that extends out from between the borders is located outside of the separator in about the same location as a gridwire end that punctures a border. As noted in Hercamp, the gridwire ends that puncture through the border are a source of internal shorts within the battery. Since a gridwire ends that extends out from between the borders would be in the same location as a gridwire end that punctures the border, these gridwire ends would also be a source of internal short circuits. Since internal shorts are not desirable, the cited art teaches away from forming a gap between the seams that defined Hercamp's pocket.

Additionally, even if the examiner did not argue that the suggested modification did result in a gap being formed between seams adjacent to one another along the perimeter of the pocket, the cited art also teaches away from the suggested modification. For instance, as is described above, the suggested modification introduces epoxy between the borders (26A and 26B) of Hercamp's separator at a location where Hercamp does not have any material. In this location,

the epoxy lines themselves will be subjected to the sharp ends of the gridwire as described by Hercamp. Additionally, the location where the epoxy lines are joined to the separator will also be subjected to the sharp ends of the gridwire. To see this point, note that epoxy positioned between the borders labeled 26A and 26B in Hercamp's Figure 1 would be in direct contact with the grid ends labeled 34. As a result, the epoxy lines will be subjected to the puncturing forces associated with these grid ends. Additionally, the junction between the epoxy lines and the separator will also be subjected to the puncturing forces associated with these gridwire ends.

There is nothing in either Hercamp or Robert suggesting that either the epoxy line or the junction between the epoxy line and the separator would withstand these puncturing forces. As a result, the suggested modification the suggested modification re-introduces the possibility of these punctures into the battery of Hercamp even when there are no gaps between seams in the pocket. As noted above, Hercamp re-designed the battery specifically in order to avoid the internal shorts that result from these punctures. When a battery is specifically constructed to avoid internal shorts, an inventor would be discouraged from making modification that re-introduce the possibility of these shorts into the battery. Because the cited art discourages an inventor from making the suggested modification, the cited art teaches away from the suggested modification.

Conclusion

The *KSR* opinion shows that claims 1 and 34 are patentable over the cited art. For instance, the *KSR* opinion shows that a lack of predictable results in a modification is evidence of patentability. The *KSR* opinion also shows that a modification that results in elements not being used for their established function is evidence of patentability. The *KSR* opinion further shows that difficulty in implementing a modification is even further evidence of the patentability. Even further, the *KSR* opinion shows that the lack of a reason to make a modification is also evidence of patentability. The above discussion shows that the suggested modification is not associated with only one of these factors but is instead associated with all of these factors. Since each of these factors by itself is evidence of patentability, the presence of all of these factors provides overwhelming evidence supporting the patentability of claims 1 and 34 over the suggested modification.

Evidence for the patentability of claims 1 and 34 can also be found outside of the *KSR* opinion. For instance, not only does the cited art teach away from the suggested combination but the suggested modification does not result in the battery recited in claims 1 and 34. The pending rejection should be withdrawn for either of these reasons by itself. However, when either of these reasons is considered in combination with all or even a portion of the patentability evidence derived from the *KSR* opinion, the support for the patentability of claims 1 and 34 over the cited art becomes overwhelming.

CLAIMS 2, 5-7, 9, 11-13, and 35

Claims 2, 5-7, 9, are 11-13 each depends directly from Independent claim 1. As a result, if claim 1 is found to be patentable over the cited art, these claims are also patentable over the cited art.

Claim 35 depends directly from Independent claim 34. As a result, if claim 34 is found to be patentable over the cited art, claim 35 is also patentable over the cited art.

CLAIM 8

Dependent claim 8 stands rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert.

Since the arguments presented above for the patentability of claims 1 and 34 apply to claim 8, these arguments are repeated here. The Applicant adds the following argument for the patentability of claim 8.

Claim 8 depends from claim 6. Claim 6 provides that at least one fold in the separator material serves as one of the seams. Claim 8 adds that “at least one gap is defined by the fold and by the spacer.” As evident from Diagram C, the suggested modification does not result in a bag having at least one gap that is defined by the fold and by the spacer.

Further, Hercamp teaches against forming seams such that a gap is present between the fold and a spacer. For instance, Hercamp teaches us that the electrodes of Hercamp’s battery have a grid with “sharp gridwire ends” that can puncture through the borders of the separator (C1, L47-50). Hercamp also teaches us that these punctures are a source of internal shorts within the battery (C1, L49-50). The problems with associated with these punctures are so severe that Hercamp has changed the structure of the separator to overcome these punctures (C2, L5-6 and title).

If there were a gap between Hercamp’s fold and the spacer resulting from the suggested modification, the sharp gridwire ends would be free to exit from between the borders through the gap that is now present in the borders. What is worse is that the presence of a spacer on one or both ends of this gap would

increase the separation between Hercamp's borders. For instance, the Office Action argues that Roberts teaches that the epoxy line is the same thickness as the electrode in the first paragraph of page 5. As a result, the use of Robert's epoxy between Hercamp's borders separates the borders by about the thickness of Hercamp's electrode. The increased distance between these borders increases the ease with which the sharp ends of the gridwires will exit from between the borders through the gap. A gridwire end that extends through the gap will extend out from between the borders of the separator.

A gridwire end that extends out from between the borders is located outside of the separator at about the same location as a gridwire end that punctures a border. As noted in Hercamp, the gridwire ends that puncture through the border are a source of internal shorts within the battery. Since a gridwire ends that extends out from between the borders would be in the same location as a gridwire end that punctures the border, these gridwire ends would also be a source of internal short circuits. As a result, Hercamp teaches that the presence of the claimed gap results in a battery having internal shorts. Since internal shorts are not desirable, the cited art teaches away from the subject matter of claim 8.

Since the suggested modification does not result in every element of claim 8, and since the cited art teaches away from claim 8, claim 8 is patentable over the cited art.

CLAIM 10

Dependent claim 10 stands rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert.

Since the arguments presented above for the patentability of claims 1 and 34 apply to claim 8, these arguments are repeated here. The Applicant adds the following argument for the patentability of claim 10.

Claim 10 recites that “an electrode (is) positioned in the pocket.” Claim 10 adds that the “the separator bag includes a lower edge extending between lateral edges, the bag also includ(es) one or more lateral seams positioned along a lateral edge of the separator bag and at least one lower seams positioned along the lower edge of the separator bag, the one or more lateral seams not being positioned above a distance equal to 50% of the electrode height from the lower seam, the electrode height being measured along the edge of the electrode adjacent to the lateral seam.” As disclosed in the Applicant’s specification at page 7, line 29-page 8, line 15, this arrangement can facilitate bag assembly and can increase the free space within an electrochemical cell.

As evident from Diagram C, the suggested modification does not result in a bag having “the one or more lateral seams **not** being positioned above a distance equal to 50% of the electrode height from the lower seam.”

Further, Hercamp teaches against forming seams such that “the one or more lateral seams **not** being positioned above a distance equal to 50% of the electrode height from the lower seam.” For instance, this arrangement would result in the lateral edge of the bag having a lateral seam that stops at or before a location that is at a distance of 50% of the electrode height from the lower seam. The lateral seam stopping at this location results in the absence of a seam above this location. The absence of the seam above this location is referred to as a gap below.

Hercamp teaches against forming seams such that a gap is present at this location. For instance, Hercamp teaches us that the electrodes of Hercamp’s battery have a grid with “sharp gridwire ends” that can puncture through the borders of the separator (C1, L47-50). Hercamp also teaches us that these punctures are a source of internal shorts within the battery (C1, L49-50). The problems with associated with these punctures are so severe that Hercamp has

changed the structure of the separator to overcome these punctures (C2, L5-6 and title).

If there were a gap above a lateral seam that is positioned as is claimed, the sharp gridwire ends would simply be free to exit from between the borders through the gap that is now present in the borders. What is worse is that the presence of a spacer on one or both ends of this gap would increase the separation between Hercamp's borders. For instance, the Office Action argues that Roberts teaches that the epoxy line is the same thickness as the electrode in the first paragraph of page 5. As a result, the use of Robert's epoxy between Hercamp's borders separates the borders by about the thickness of Hercamp's electrode. The increased distance between these borders increases the ease with which the sharp ends of the gridwires will exit from between the borders through the gap. A gridwire end that extends through the gap will extend out from between the borders of the separator.

A gridwire end that extends out from between the borders is located outside of the separator in the same location as a gridwire end that punctures a border. As noted in Hercamp, the gridwire ends that puncture through the border are a source of internal shorts within the battery. Since a gridwire ends that extends out from between the borders would be in the same location as a gridwire end that punctures the border, these gridwire ends would also be a source of internal short circuits. Since internal shorts are not desirable, the cited art teaches away from forming a gap between the seams that defined Hercamp's pocket. As a result, Hercamp teaches that a bag having "the one or more lateral seams **not** being positioned above a distance equal to 50% of the electrode height from the lower seam" results in a battery having internal shorts. Since internal shorts are not desirable, the cited art teaches away from the subject matter of claim 10.

Since the suggested modification does not result in every element of claim 10, and since the cited art teaches away from claim 10, claim 10 is patentable over the cited art.

CLAIM 36

Dependent claim 36 stands rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert.

Since the arguments presented above for the patentability of claims 1 and 34 apply to claim 36, these arguments are repeated here. The Applicant adds the following argument for the patentability of claim 36.

A proper obviousness rejection still requires that the cited art teaches or suggests every element of the claims. This requirement has been set forth in case law with statements such as “obviousness requires a suggestion of all limitations in a claim.” *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). There is nothing in the *KSR* opinion that directly or indirectly overturned the requirement that the cited art teach or suggest every element of a claim properly rejected as obvious. Further, the Board of Patent Appeals and interferences continues to cite and apply this standard in decisions such as *Ex Parte H. Garrett Wada, and Matthew B. Murphy* (Appeal 2007-1925, decided on June 25, 2007). As a result, current law holds that an obviousness rejection is not properly supported unless the cited art teaches or suggests every element of the claims.

The cited art does not teach or suggest every element of claim 36.

Claim 36 depends from claim 34. Claim 34 recites “joining regions of one or more separator materials so as to form the seams of a separator bag, the seams being positioned so as to define a perimeter of a pocket.” Claim 36 recites

“forming at least one additional seam joining regions of the one or more separator materials after positioning the electrode in the pocket.”

Since claim 36 requires that the pocket is defined by the seams, the limitation of “positioning the electrode in the pocket” requires that the electrode be positioned in the pocket after the seams that define the pocket are formed. When this requirement is considered in light of the claim language “forming at least one additional seam ... **after** positioning the electrode in the pocket,” it is clear that claim 36 requires the formation of seams both before and after the electrode is positioned in the pocket.

There is nothing in either Roberts or Hercamp suggesting the formation of seams both before and after positioning an electrode in a pocket. Since the cited art does not teach or suggest every element of claim 36, claim 36 is patentable over the cited art.

CLAIM 37

Claim 37 depends directly from claim 36. As a result, if claim 36 is found to be patentable over the cited art, claim 37 is also patentable over the cited art.

CLAIM 38

Dependent claim 38 stands rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert.

Since the arguments presented above for the patentability of claims 1 and 34 apply to claim 38, these arguments are repeated here. The Applicant adds the following argument for the patentability of claim 38.

Claim 38 recites “positioning an electrode in the pocket, the electrode including a tab with a tab opening extending through the electrode.” Claim 38 also recites “positioning the electrode on a post of an electrode receiving member such

that the post extends through the tab opening.” Since there is nothing in either Roberts or Hercamp suggesting either of these elements, claim 38 is patentable over the cited art.

CLAIMS 16, 17, and 20-22

Claims 16, 17, and 20-22 each depends directly or indirectly from Independent Claim 14. The pending rejection of claim 14 is discussed below. Since these claims depend from claim 14, if claim 14 is found to be patentable over the cited art, claims 16, 17, and 20-22 37 are also patentable over the cited art.

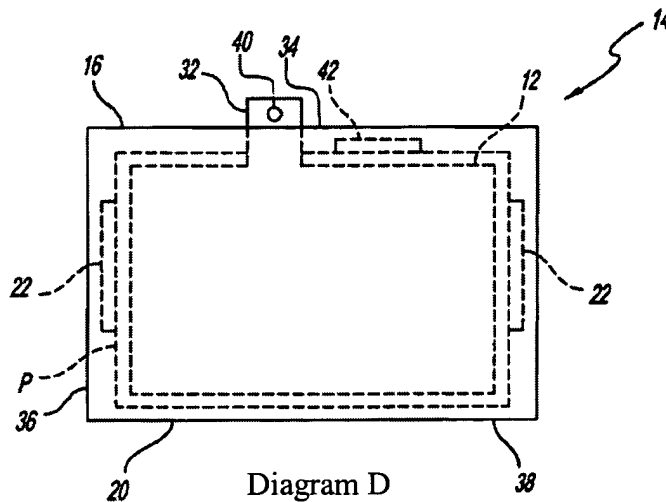
2. Rejection of Claims 14 and 59 under 35USC102(b) as being anticipated by U.S. Patent number 6,001,503 (Hercamp).

CLAIM 14

Claim 14 stands rejected under 35USC102(b) as being anticipated by U.S. Patent number 6,001,503 (Hercamp). Claim 14 recites “the seams defining a perimeter of a pocket that surrounds the electrode.” However, Hercamp does not teach this element.

As discussed above with respect to Diagram A, the pocket defined by the seams of Hercamp’s bag does not extend across the top of the bag because there is no seam extending along the top of the bag. This is also logical since the electrode 2 in Diagram A is free to move out of the bag through the top of the bag because it is not constrained by a portion of the pocket being located along the top of the bag. Since the pocket defined by the seams of Hercamp’s bag does not extend across the top of the bag, the pocket defined by Hercamp’s seams does not surround the electrode as is claimed.

Further, an interpretation of the pocket defined by Hercamp's seams as surrounding an electrode contradicts Applicant's specification in direct contrast to the requirements of MPEP2111. For instance, Figure 2 of Applicant's specification is shown below in diagram D. The specification characterizes the line labeled P as "representing the pocket" defined by the seams. Since the bag has a seam along the top of the bag, the pocket is shown surrounding the electrode and is described in the specification as surrounding the electrode (P7, L2). In contrast, the specification also teaches that the dashed line labeled P in diagram B also defines the perimeter of the resulting pocket (P5, L26-28). Since the bag in diagram B does not have a seam along the top of the bag, line labeled P does not surround the electrode. Accordingly, the specification teaches that this seam arrangement defines a pocket that does not surround the electrode.



The seam arrangement of Hercamp can be analogized to the seam arrangement of diagram B but not to the seam arrangement of diagram D. For instance, Hercamp can be analogized to diagram B because both Hercamp and diagram B have seams extending upward from a fold but do not have a seam along the top of the bag. In contrast, Hercamp cannot be analogized to diagram D

because diagram D has a seam along the top of the bag but Hercamp has no such seam.

Since the seam arrangement of Hercamp can be analogized to the seam arrangement of diagram B and the specification teaches that the resulting pocket **does not** surround the electrode (see the line labeled P in diagram B), an interpretation of Hercamp's pocket as surrounding an electrode would contradict the teachings of the specification. Further, the fact that the seam arrangement of Hercamp cannot be analogized to a seam arrangement that specification teaches provides a pocket that surrounds the electrode serves as further evidence that an interpretation of Hercamp's pocket as surrounding an electrode would contradict the teachings of the specification.

Since interpreting the seam arrangement of Hercamp as defining a pocket that surrounds the electrode is not consistent with the specification, Hercamp does not teach seams that define a perimeter of a pocket that surrounds an electrode as is claimed. Since Hercamp does not teach every element of claim 14, claim 14 is patentable over Hercamp.

CLAIM 59

Claim 59 recites "three seams that each includes a spacer positioned between portions of the separator material." Hercamp does not teach a spacer between portions of a separator material. Since Hercamp does not teach every element of claim 59, claim 59 is patentable over Hercamp.

3. Rejection of Claims 3, 18, and 54 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of U.S. Patent number 5,314,507 (Rossoll).

CLAIM 3

Claims 3 and 18 stand rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of U.S. Patent number 5,314,507 (Rossoll).

As discussed above, current law provides that an obviousness rejection is not properly supported unless the cited art teaches or suggests every element of the claims. The cited art does not teach or suggest every element of claim 3 or 18.

Claim 3 depends from claim 1. As discussed above, claim 1 recites that “a spacer positioned between portions of ... one or more separator materials.” Claim 3 adds that “the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.”

Claim 18 depends from claim 16. Claim 16 recites “a spacer positioned between portions of the separator material immobilized by the at least one seam.” Claim 18 adds that “the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.”

In view of the claim 3 and claim 18 limitations set forth above, in order for the cited art to properly support the pending rejection, the cited art must teach or suggest a spacer that “includes a substrate and an adhesive attaching the substrate to a separator material.

The cited art does not teach or suggest the claimed spacer. For instance, neither Hercamp nor Rossoll teaches or suggests a spacer between separator materials. Since these references do not even teach a spacer, these references cannot teach or suggest a spacer that “includes a substrate and an adhesive attach(ing) the substrate (a) separator material.” The Office Action argues that Roberts teaches a spacer. However, the spacer of Roberts does not include a substrate and an adhesive attach(ing) the substrate (a) separator material. Since the cited art does not teach or suggest a spacer that includes a substrate and an

adhesive attaching the substrate to a separator material, the cited art does not teach or suggest every element of claims 3 and 18 and these claims are accordingly patentable over the cited art.

CLAIM 54

Claim 54 depends from claim 3, which depends from claim 1. As discussed above, claim 1 recites that “a spacer positioned between portions of ... one or more separator materials.” Claim 3 adds that “the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.” Claim 54 adds that “the adhesive attaches opposing sides of the substrate to the one or more separator materials.”

There is nothing in the cited art that teaches or suggests a spacer that is between one or more separator materials and that includes a spacer having a substrate where an adhesive attaches opposing sides of the substrate to the one or more separator materials. Since the cited art does not teach or suggest every element of claim 54, claim 54 is patentable over the cited art.

4. Rejection of Claims 15 is rejected under 35USC103(a) as being unpatentable over Hercamp.

CLAIM 15

Claim 15 stands rejected under 35USC103(a) as being unpatentable over Hercamp.

As discussed above, current law provides that an obviousness rejection is not properly supported unless the cited art teaches or suggests every element of the claims.

Claim 15 recites “the seams define four sides of a pocket, each of the pocket sides being adjacent to an edge of the electrode.” The above diagram A is Figure 2

of Hercamp. As is evident from this diagram, Hercamp does not teach or suggest “seams (that) define four sides of a pocket (with) each of the pocket sides being adjacent to an edge of the electrode.” Since Hercamp does not teach or suggest every element of claim 15, claim 15 is patentable over Hercamp.

5. Rejection of Claims 4 and 19 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Rossoll and even further in view of U.S. Patent number 4,539,271 (Crabtree).

CLAIM 4

Claim 4 depends from claim 3. As a result, if claim 3 is found to be patentable over the cited art, claim 4 is also patentable over the cited art.

CLAIM 19

Claim 19 depends from claim 18. As a result, if claim 18 is found to be patentable over the cited art, claim 19 is also patentable over the cited art.

6. Rejection of Claim 23 under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 5,674,641 (Cheu).

CLAIM 23

Claim 23 stands rejected under 35 USC §103(a) as being unpatentable over Hercamp in view of U.S. Patent number 5,674,641 (Cheu).

As discussed above, current law provides that an obviousness rejection is not properly supported unless the cited art teaches or suggests every element of the claims.

Claim 23 recites “an electrode positioned within the pocket, the electrode having a tab extending from the bag, a tab opening extending through the tab and being open to an edge of the tab.” An illustration of this claim limitation is provided in the above Diagram B.

Neither Hercamp nor Cheu teaches or suggests “a tab opening extending through (a) tab and being open to an edge of the tab” as is claimed. Further, the pending Office Action does not point to anywhere in either reference where such a teaching or suggestion can be found. In fact, page 9 of the Office Action states that “Hercamp ... fail to teach a tab opening extending through the tab and being open to an edge of the tab” (sic). The same page of the Office Action follows that with “Cheu ... does not teach that the tab openings are open to the edge of the tab.” As a result, the Office Action concedes that the cited art does not teach or suggest every element of claim 23.

Rather than pointing to where the cited art teaches or suggests the claim element, the Office Action argues that the claim element is a mere change in the shape of a component taught in Cheu and that changes in shape are not patentable. However, the claim limitation does not recite a change in shape. For instance, the claimed opening can be square arced, triangular, wedge-shaped, etc., etc. As result, the claim does not limit the shape of the opening and the cited law should not be applied.

Further, the cited law does not apply. In support of this rejection, the Examiner cites to MPEP 2144.04(IV)(B). The **entire** MPEP 2144.04(IV)(B) is as follows:

In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious **absent persuasive evidence that the particular configuration of the claimed container was significant.**) (emphasis added).

This citation teaches shows that this rule does not apply in the presence of evidence that a particular configuration is significant. This evidence can be found directly in the Applicant's specification.

The specification teaches that the opening being open to the edge of the tab prevents rotation and helps in the alignment of the electrodes in the battery. For instance, the specification teaches that a battery can be assembled using a stacking structure 70 having posts 75. The posts 75 are sized such that the opening in the electrode tab can be positioned over the post 75 and slid along the post 75 (page 13, lines 3-4). The specification then states the following at page 13, line 25-28:

As evident in Figure 9D, the **tab opening 40** can have a shape that is complementary to the shape of the stem 88 and the post 75. As a result, the stem 88 can prevent rotation of the electrode (12) around the post 75 and can aid in the alignment of the electrodes positioned on the post 75.

To illustrate this point, the below diagram E is Figure 9C from the specification. Figure 9E is a cross-section of the stacking structure 70. For the purposes of clarity, the Applicant has added the labeled "opening 40" to this diagram.

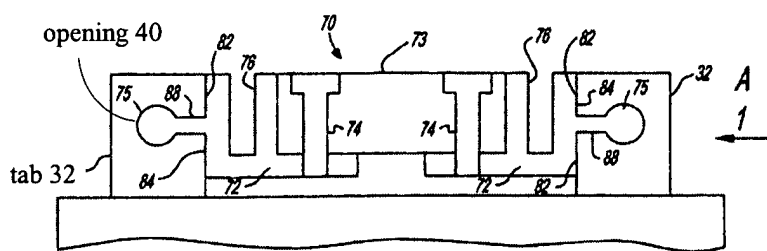


Diagram E

Diagram E shows a tab 32 with the opening 40 being open to the edge of the tab as is claimed and with the opening being positioned over the post 75. The presence of the stem 88 on the post 75 prevents rotation of the

electrode tab 32 around the post 75. Finally, note that a tab having an opening that is not open to the edge of the tab could not be slid onto the illustrated post 75. As a result, the benefit of the stem preventing rotation could not be achieved without the opening being open to the edge of the tab. Accordingly, the claimed opening configuration is significant to the assembly of the claimed battery.

Since the claimed configuration is significant to the claimed battery, the claim recitation is more than a “mere change in shape” and the law cited in support of this rejection does not apply. Further, since the cited art does not teach or suggest tab openings that are open to the edge of the tab as is claimed, claim 23 is patentable over the cited art.

7. Rejection of Claims 24-27 under 35 USC §103(a) as being unpatentable over Hercamp in view of Cheu and further in view of Robert.

CLAIM 26

Claim 26 stands rejected under 35USC103(a) as being unpatentable over being unpatentable over Hercamp in view of Cheu and further in view of Robert.

As discussed above, current law provides that an obviousness rejection is not properly supported unless the cited art teaches or suggests every element of the claims.

Claim 26 depends from claim 24. Claim 24 recites “a spacer positioned between portions of the separator material.” Claim 26 adds that “the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.”

The cited art does not teach or suggest the claimed spacer. For instance, Hercamp does not teach or suggests a spacer between separator materials. Additionally, Applicant has been unable to find any such teaching in Cheu. Since these references do not even teach a spacer, these references cannot teach or suggest a spacer that “includes a substrate and an adhesive attach(ing) the substrate (a) separator material.” The Office Action argues that Roberts teaches a spacer. However, the spacer of Roberts does not include a substrate and an adhesive attach(ing) the substrate (a) separator material. Since the cited art does not teach or suggest a spacer that includes a substrate and an adhesive attaching the substrate to a separator material, the cited art does not teach or suggest every element of claim 26 and claim 26 is accordingly patentable over the cited art.

CLAIMS 24, 25, and 27


Claims 24, 25, and 27 each depends directly from claim 23. As a result, if claim 23 is found to be patentable over the cited art, these claims are also patentable over the cited art.

8. Rejection of Claims 55-58 under 35 USC §103(a) as being unpatentable over Hercamp in view of Robert and further in view of Cheu.

CLAIMS 55-58

Claims 55-58 each depends directly or indirectly from claim 3. As a result, if claim 3 is found to be patentable over the cited art, claims are also patentable over the cited art.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Travis Dodd', written over a horizontal line.

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VIII. CLAIMS APPENDIX

1. (previously presented) A battery, comprising:
 - one or more separator materials formed into a bag having at least two seams, the seams positioned so as to define a perimeter of a pocket configured to receive an electrode within the bag,
 - the seams being arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket, and
 - at least one of the seams including a spacer positioned between portions of the one or more separator materials joined by the at least one seam.
2. (previously presented) The battery of claim 1, wherein the spacer has a thickness greater than 10 μ m along the one or more sides of the spacer that define the pocket.
3. (previously presented) The battery of claim 1, wherein the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.
4. (previously presented) The battery of claim 3, wherein the adhesive includes one or more components selected from the group consisting of acrylic, rubber, cellulose and silicone.
5. (previously presented) The battery of claim 1, wherein the seams define a pocket configured to surround an electrode within the pocket.

6. (previously presented) The battery of claim 1, wherein at least one fold in the separator material serves as one of the seams.
7. (previously presented) The battery of claim 1, wherein the bag has an envelope shape.
8. (previously presented) The battery of claim 6, wherein the at least one gap is defined by the fold and by the spacer.
9. (previously presented) The battery of claim 1, wherein at least one of the separator materials includes one or more components selected from the group consisting of polypropylene and polyethylene.
10. (previously presented) The battery of claim 1, further comprising:
 - an electrode positioned in the pocket and wherein the separator bag includes a lower edge extending between lateral edges, the bag also including one or more lateral seams positioned along a lateral edge of the separator bag and at least one lower seams positioned along the lower edge of the separator bag, the one or more lateral seams not being positioned above a distance equal to 50% of the electrode height from the lower seam, the electrode height being measured along the edge of the electrode adjacent to the lateral seam.
11. (previously presented) The battery of claim 1, further comprising:
 - an electrode positioned in the pocket, the electrode having a tab extending from an edge of the separator bag, the tab including a tab opening extending through the tab.

12. (previously presented) The battery of claim 1, further comprising:
an electrode positioned in the pocket, the spacer has a thickness greater than 20% of the electrode thickness.
13. (previously presented) The battery of claim 1, further comprising:
an electrode positioned in the pocket, the spacer has a thickness in a range of 80% to 120% of the electrode thickness.
14. (previously presented) A battery, comprising:
an electrode; and
one or more separator materials formed into a bag having at least two seams that immobilize one portion of the one or more separator materials relative to another portion of the one or more separator materials, the seams defining a perimeter of a pocket that surrounds the electrode.
15. (previously presented) The battery of claim 14, wherein the seams define four sides of a pocket, each of the pocket sides being adjacent to an edge of the electrode.
16. (previously presented) The battery of claim 14, wherein at least one of the seams includes a spacer positioned between portions of the separator material immobilized by the at least one seam.
17. (previously presented) The battery of claim 16, wherein the spacer has a thickness greater than 10 μ m along the one or more sides of the spacer that define the pocket.

18. (previously presented) The battery of claim 16, wherein the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.

19. (previously presented) The battery of claim 18, wherein the adhesive includes one or more components selected from the group consisting of acrylic, rubber, cellulose and silicone.

20. (previously presented) The battery of claim 14, wherein one or more of the separator materials includes one or more components selected from the group consisting of polypropylene and polyethylene.

21. (previously presented) The battery of claim 14, wherein the separator bag includes a lower edge extending between lateral edges, the bag also including one or more lateral seams positioned along a lateral edge of the separator bag and at least one lower seams positioned along the lower edge of the separator bag, the one or more lateral seams not being positioned above a distance from the lower seam, the distance being equal to 50% of the electrode height, the electrode height being measured along the edge of the electrode adjacent to the lateral seam.

22. (previously presented) The battery of claim 14, wherein the electrode includes at least one tab extending from a side of the bag, the tab includes an opening extending through the tab.

23. (previously presented) A battery, comprising:

one or more separator materials formed into a bag having seams that immobilize one portion of the one or more separator materials relative to another

portion of the one or more separator materials, the seams positioned so as to define a perimeter of a pocket configured to receive an electrode; and

an electrode positioned within the pocket, the electrode having a tab extending from the bag, a tab opening extending through the tab and being open to an edge of the tab.

24. (previously presented) The battery of claim 23, wherein at least one of the seams includes a spacer positioned between portions of the separator material joined by the at least one seam.

25. (previously presented) The battery of claim 23, wherein the spacer has a thickness greater than 10 μ m along the one or more sides of the spacer that define the pocket.

26. (previously presented) The battery of claim 24, wherein the spacer includes a substrate and an adhesive attaches the substrate to one of the one or more separator materials.

27. (previously presented) The battery of claim 23, wherein the separator bag includes a lower edge extending between lateral edges, the bag also including one or more lateral seams positioned along a lateral edge of the separator bag and at least one lower seams positioned along the lower edge of the separator bag, the one or more lateral seams not being positioned above a distance equal to 50% of the electrode height from the lower seam, the electrode height being measure along the edge of the electrode adjacent to the lateral seam.

28-33. (canceled)

34. (previously presented) A method of forming battery, comprising:
 joining regions of one or more separator materials so as to form the seams of
a separator bag,
 the seams being positioned so as to define a perimeter of a pocket
configured to receive an electrode within the bag,
 the seams being arranged such that at least one gap is formed between
seams adjacent to one another along the perimeter of the pocket, and
 at least one of the seams formed so as to include a spacer positioned
between regions of the separator material joined by the at least one seam.
35. (previously presented) The method of claim 34, wherein the at least one seam
is formed so as to have a thickness greater than 10 μ m along the one or more sides
of the spacer that define the pocket.
36. (previously presented) The method of claim 34, further comprising:
 positioning an electrode in the pocket; and
 forming at least one additional seam joining regions of the one or more
separator materials after positioning the electrode in the pocket.
37. (previously presented) The method of claim 36, wherein the at least one
additional seam acts with the other seams to define a pocket surrounding the
electrode.
38. (previously presented) The method of claim 34, further comprising:
 positioning an electrode in the pocket, the electrode including a tab with a
tab opening extending through the electrode; and

positioning the electrode on a post of an electrode receiving member such that the post extends through the tab opening.

39.-53. (canceled)

54. (previously presented) The battery of claim 3, wherein the adhesive attaches opposing sides of the substrate to the one or more separator materials.

55. (previously presented) The battery of claim 54, further comprising:
an electrode positioned in the pocket, the electrode having a tab extending from an edge of the separator bag, the tab including a tab opening extending through the tab and being open to an edge of the tab.

56. (previously presented) The battery of claim 55, wherein the at least two seams include three seams that each includes a spacer and each spacer is positioned adjacent to a different edge of the electrode.

57. (previously presented) The battery of claim 56, wherein the bag has three seams that each include a spacer positioned between portions of the one or more separator materials,
the electrode has a plurality of edges, and
each of the three seams that include a spacer is adjacent to a different one the edges.

58. (previously presented) The battery of claim 57, wherein the at least two seams include a fold in the separator material serving as one of the seams.

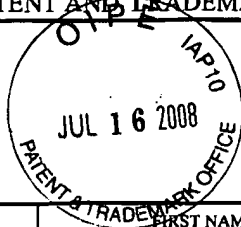
59. (previously presented) The battery of claim 14, further comprising:
- an electrode having multiple edges positioned in the pocket;
 - the at least two seams including three seams that each includes a spacer positioned between portions of the separator material; and
 - each of the three seams that include a spacer being adjacent to a different one the edges.

IX. EVIDENCE APPENDIX

Office Action mailed on December 28, 2007.



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10/697,537

10/29/2003

David M. Skinlo

Q178-US1

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EXAMINER

ECHELMeyer, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

12/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary



Application No.

10/697,537

Applicant(s)

SKINLO ET AL.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27, 34-38 and 54-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 34-38 and 54-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed October 3, 2007. Claims 3, 6, 8, 16-18 and 26 have been amended. Claims 54-59 have been added. Claims 1-27, 34-38 and 54-59 are pending and are rejected finally for the reasons given below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Hercamp et al. (US Patent 6,001,503).

Hercamp et al. teach a microporous battery separator that is sealed along two edges by a method such as heat sealing, ultrasonic welding, or pressure welding (abstract, column 2 lines 45-51). The bottom seal is a fold in the separator. An electrode plate is placed within the pocket created by the separator (column 1 lines 54-60). As seen in Figure 1, the electrode contained within the separator pocket includes a tab, (16).

As for claim 59, the seal is found on all four sides of the pocket (see Figure 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al.

The teachings of Hercamp et al. as discussed above are incorporated herein.

Hercamp et al. teaches the separator pocket for enclosing an electrode to reduce the possibility of interplate shorting (column 1 lines 30-34) but fail to teach seams on four sides of the pocket.

It would be desirable to make seams on four sides of the separator to reduce the possibility of shorting if the battery was to be used in an application where it might be turned upside down, which might cause the electrodes to slip out of the pocket along the side where there is no seam.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make a seam on the fourth side of the pocket to ensure against the possibility of shorting of the battery.

6. Claims 1, 2, 5-13, 16, 17, 20-22 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. (US Patent 4,476,203).

The teachings of Hercamp et al. as discussed above are incorporated herein.

Regarding claims 1 and 34, Hercamp et al. teach a gap between the seams, allowing for the electrode to be placed in the pocket (Figure 2). As for these claims, as well as 16, Hercamp et al. fail to teach a spacer.

Robert et al. teach a battery cell where the positive electrode is contained within separator elements. The separator materials are larger in surface area than the electrode plates (abstract). Robert et al. teach a line or cord of epoxy resin sealing the separator elements around the outside of the electrode plate to prevent active material from escaping (column 2 lines 3-13).

As seen in Figures 3a and 3b of Robert et al., the epoxy resin serves as sealant as well as spacer, since it is poured into the channel between the portions of the separators that extend beyond the electrode plate (abstract).

It would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created by the electrode plate being placed between the two separator sheets, the need for extra machinery to create the seal is removed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the epoxy seal of Robert et al. in the battery of Hercamp et al. in order to facilitate the formation of the seal.

As for claims 2, 17 and 35, Robert et al. is silent on the size of the epoxy resin ribbon. However, Hercamp et al. teach that the separator about 0.006 to 0.015 inches thick. If the spacer of Robert et al. was used in the separator pocket of Hercamp et al., and the epoxy spacer was of the same thickness as the electrode, as seen in Robert et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spacer of a thickness greater than 10 μm .

Regarding claims 10 and 21, Hercamp et al. teach the seam except for the length extending along the side of the pocket. It would have been an obvious matter of design choice to change the length of the seam, for example to facilitate production, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV).

Claims 12 and 13 are to the thickness of the spacer in relation to the thickness of the electrode. As seen in Figures 3a and 3b of Robert et al., the spacer has the same thickness as the electrode.

With regard to claims 5, 6, 7, Hercamp et al. teach that the pocket of the separator is formed by folding the separator in half and bonding the sides perpendicular to the fold (see above).

As for claim 8, the spacer of Robert et al. forms a seam along the edges of the separator.

Claims 9 and 20 are to the separator made from polypropylene or polyethylene. Hercamp et al. teach that the separator as made of polyethylene (column 1 lines 12-17).

With regard to claims 11, 22 and 38, Hercamp et al. teach a tab on the electrode, with the tab extending outside the separator pocket. It would have been an obvious matter of design choice to put a hole in the tab, perhaps for alignment purposes, since such a modification would have involved a mere change in the shape of the component. A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

As for claims 36 and 37, Hercamp et al. teach forming the seams after the electrode is positioned within the separator (column 2 lines 45-51, Figure 2).

7. Claims 3, 18 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. as applied to claims 1 and 16 above, and further in view of Rossoll (US 5,314,507).

The teachings of Hercamp et al. and Robert et al. as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. teach a spacer in the seam of the separator bag, but fail to teach the spacer including a substrate having adhesive to connect the substrate to the separator. Robert et al. teach that the epoxy serves as an adhesive to bond the separators (abstract).

Rossoll teaches an adhesively sealed battery (abstract). Although the battery of Rossoll is not a polymer battery such as the battery of Hercamp et al., it is analogous art because both are concerned with the sealing of a battery.

Rossoll teaches a spacer, or frame, connected to the outer components, analogous to the bag of Hercamp et al. in view of Robert et al. (abstract, Figure 2).

The spacer of Rossoll functions as a frame, providing structure to the battery, and as housing (column 2 lines 25-27). Further, it is attached by a high temperature adhesive coating (column 8 lines 10-12).

It would be desirable to use a spacer such as in Rossoll in the battery of Hercamp et al. in view of Robert et al., since such a spacer would serve to provide structure to the battery, and because, if the adhesive did melt, the spacer would still provide some housing for the battery, unlike if the spacer of Robert et al. were to melt.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spacer such as in Rossoll in the battery of Hercamp et al. in view of Robert et al., since such a spacer would serve to provide structure to the battery, and because, if the adhesive did melt, the spacer would still provide some housing for the battery, unlike if the spacer of Robert et al. were to melt.

8. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. and Rossoll as applied to claims 3 and 18 above, and in further view of Crabtree (US Patent 4,539,271).

The teachings of Hercamp et al., Robert et al. and Rossoll as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. and Rossoll teach an epoxy adhesive to seal the edges of a pocket separator but fail to teach the use of an acrylic adhesive.

Crabtree teaches the use of an adhesive such as epoxy or acrylic to seal the edges of a pocket separator. The adhesive is selected to ensure that the seams will not fall apart during assembly or in the cell environment (abstract, column 4 lines 18-33).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the seam of Hercamp et al. in view of Robert et al. and Rossoll out of acrylic if acrylic was determined to be more likely to ensure that the seams would not fall apart during assembly or in the cell environment.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Cheu (US Patent 5,674,641).

The teachings of Hercamp et al. as discussed above are incorporated herein.

Hercamp et al. teaches the separator pocket for enclosing an electrode to reduce the possibility of interplate shorting (column 1 lines 30-34) but fail to teach a tab opening extending through the tab and being open to an edge of the tab.

Cheu teaches a battery module containing a series of batteries having electrode tabs (abstract; Figure 3). The tabs contain holes that can be used for alignment, or to attach shafts or fastening means to form a stack (column 7 lines 35-50; column 8 lines 15-28).

Cheu teaches tab openings but does not teach that the tab openings are open to the edge of the tab. It would have been an obvious matter of design choice to form the tab openings to be open to an edge of the tab, since such a modification would have

facilitated the placement of a shaft or fastening mechanism in the tab openings, such as by allowing the assembler to slide a shaft into the holes from the side instead of from the top down. Such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

It would have been advantageous to make tab openings in the tabs of Hercamp et al. as taught by Cheu in order to facilitate assembly by providing a tool to align the tabs.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make tab openings in the tabs of Hercamp et al. as taught by Cheu in order to facilitate assembly by providing a tool to align the tabs.

10. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Cheu as applied to claim 23 above, and further in view of Robert et al.

The teachings of Hercamp et al., Cheu and Robert et al. as discussed above are incorporated herein.

Hercamp et al. in view of Cheu teach an electrode in a bag with a tab, having a tap opening, extending from the bag. Hercamp et al. in view of Cheu fail to teach a spacer.

Robert et al. teach a battery cell where the positive electrode is contained within separator elements. The separator materials are larger in surface area than the electrode plates (abstract). Robert et al. teach a line or cord of epoxy resin sealing the separator elements around the outside of the electrode plate to prevent active material from escaping (column 2 lines 3-13).

As seen in Figures 3a and 3b of Robert et al., the epoxy resin serves as sealant as well as spacer, since it is poured into the channel between the portions of the separators that extend beyond the electrode plate (abstract).

As for claim 25, Robert et al. is silent on the size of the epoxy resin ribbon. However, Hercamp et al. teach that the separator about 0.006 to 0.015 inches thick. If the spacer of Robert et al. was used in the separator pocket of Hercamp et al., and the epoxy spacer was of the same thickness as the electrode, as seen in Robert et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spacer of a thickness greater than 10 μm .

Regarding claim 27, Hercamp et al. teach the seam except for the length extending along the side of the pocket. It would have been an obvious matter of design choice to change the length of the seam, for example to facilitate production, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV).

Regarding claim 26, Robert et al. teach that the epoxy serves as an adhesive to bond the separators (abstract).

It would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created by the electrode plate being placed between the two separator sheets, the need for extra machinery to create the seal is removed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the epoxy seal of Robert et al. in the battery of Hercamp et al. in view of Cheu in order to facilitate the formation of the seal.

11. Claims 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. and Rossoll as applied to claim 54 above, and further in view of Cheu.

The teachings of Hercamp et al., Robert et al., Rossoll and Cheu as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. and Rossoll teach the claimed invention, including the seams, spacer and fold, as discussed above, except for the tab opening.

Cheu teaches a battery module containing a series of batteries having electrode tabs (abstract; Figure 3). The tabs contain holes that can be used for alignment, or to attach shafts or fastening means to form a stack (column 7 lines 35-50; column 8 lines 15-28).

Cheu teaches tab openings but does not teach that the tab openings are open to the edge of the tab. It would have been an obvious matter of design choice to form the tab openings to be open to an edge of the tab, since such a modification would have

facilitated the placement of a shaft or fastening mechanism in the tab openings, such as by allowing the assembler to slide a shaft into the holes from the side instead of from the top down. Such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to put holes in the tabs of Hercamp et al. in view of Robert et al. and Rossoll as taught by Cheu since it would aid in alignment or fastening of the stack.

Response to Arguments

12. Applicant's arguments filed October 3, 2007 have been fully considered but they are not persuasive.

Regarding Applicant's argument on page 9, Applicant asserts that the reason for combining Hercamp et al. and Robert et al. is not valid because the seal of Robert et al. would prevent escape of active material, which Hercamp et al. already does. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Additionally, the motivation to combine the references was provided in the Non-Final Office Action of June 4, 2007 on page 4: "It would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created by the electrode plate being

placed between the two separator sheets, the need for extra machinery to create the seal is removed." The fact that there may be a disadvantage does not mean that one of ordinary skill in the art would know to recognize and weigh advantages and disadvantages and come up with a combination such as that of Hercamp et al. and Robert et al. It is not the belief of the examiner that the method for making the combination is needed for the rejection.

As for the arguments concerning claim 14, Applicant states that the definition for "surrounds" should be made in a manner that is consistent with the specification, based on the requirements of MPEP 2111, showing that in one example of a figure, the seam "surrounds" the electrode on all four side.

According to MPEP 2111.01 (I), the plain meaning of the language of the claims should be used unless that interpretation is inconsistent with the specification. MPEP 2111.01 (VI) states that Applicant may be their own lexicographer, but must do so "with reasonable clarity, deliberateness, and precision" and, if done, must "set out his uncommon definition in some manner within the patent disclosure' so as to give one of ordinary skill in the art notice of the change" in meaning. The examiner has not found in the specification a clear definition of the word "surround" to mean other than what one of ordinary skill in the art would interpret it to mean, especially in the context of a pocket. Take, for example, a shirt pocket. An item (analogous to the electrode), placed in a shirt pocket, would be surrounded by seams.

In the arguments concerning claim 23, Applicant states that "there is no motivation in either Cheu or Hercamp for modifying the tab of Cheu." The motivation

does not need to come from the reference itself as long as there is motivation to modify a reference. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found *either in the references themselves or in the knowledge generally available to one of ordinary skill in the art*. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1795

aee


SUSY TSANG-FOSTER
SUPERVISORY PATENT EXAMINER

**Notice of References Cited**

Application/Control No.

10/697,537

Applicant(s)/Patent Under
Reexamination
SKINLO ET AL.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1795

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,314,507	05-1994	Rossoll, Mary P.	29/623.4
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

X. RELATED PROCEEDINGS APPENDIX

None.